

REMARKS

This Supplemental Submission is being made to submit new evidence in support of patentability.

The new evidence in support of patentability is the enclosed Supplemental Declaration Of Edward Rahe (hereinafter "Supplemental Declaration" and the attached Exhibit C, which is the same as the graph enclosed with the RCE. The graph of Exhibit C was generated by Mr. Rahe, and the Supplemental Declaration explains the graph data in detail.

Mr. Rahe is the Vice-President of Engineering of Symons Corporation, the largest supplier of concrete formwork panels in the United States. In his position, he is perhaps the single person in the United States most likely to know about the technology of concrete formwork panels.

Claim Rejections – 35 USC §103***Independent Claim 1 And The Claims Dependent On Claim 1***

Claims 1 – 12, 14 – 17, 22, 25 – 28, and 39 – 42 were rejected under 35 U.S.C. 103(a) as being unpatentable over Sobolev (US 5,30,488) in view of Fitzgerald et al. (US 4,842,241). This rejection is respectfully traversed.

In the Advisory Action, the Examiner stated that the previous declaration of Mr. Rahe did not compare the concrete formwork panel that is the subject of the present application with the closest prior art. Mr. Rahe has now done that. Exhibit C shows the results for the best metal/plastic laminate concrete formwork panel that Mr. Rahe has tested, and summarizes the tests on other metal/plastic laminates he has tested. See Supplemental Declaration, paragraphs 7 – 16. It is not known if this summary includes the panel of Sobolev, but if it does not, the only conclusion is that the panel of Sobolev was never used as a concrete formwork panel, because, as Mr. Rahe says in paragraph 10, if it was, he would have seen it.

The Supplemental Declaration points out that the $\frac{3}{8}$ -inch panel of the invention tested 10% better than the $\frac{1}{2}$ -inch panel of the best previous plastic/metal laminate panel. See Supplemental Declaration, paragraph 13. The $\frac{3}{8}$ -inch panel of the invention tested

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25% better than the best previous plastic/metal laminate of the same thickness. See Supplemental Declaration, paragraph 15. The Supplemental Declaration also states that all other metal/plastic panels tested two to three times worse than the panel according to the invention. He gives one example of this in paragraph 11 of the Supplemental Declaration. Mr. Rahe points out that this is "really amazing" because it goes against the grain of years of testing of concrete formworks panels. See Supplemental Declaration, paragraph 16. It could not be clearer that the test results for the concrete formwork panel according to the invention meet both the superior and the unexpected results requirement of the patent law, either of which are sufficient to overcome a prima facie case of obviousness based on structural similarity. See MPEP 716.02 – 716.02(g) and 2144.09 and the cases cited therein.

With regard to claim 1, Sobolev does disclose the use of steel in a laminate panel, as the Examiner points out. However, the disclosure of steel is minimal. In a patent with ten pages of figures and 38 columns of specification and in which 51 examples of laminates are given, steel is only used in one example, and that example failed. The Examiner argues that a similar panel with aluminum also failed and that the application discloses that another aluminum laminate panel made with a "slightly more flexible epoxy resin" did not fail, and concludes that that suggests that a steel panel made with a "slightly more flexible epoxy resin" would not fail. The Supplemental Declaration points out that few plastic and plastic laminate panels hold up to the deflection criteria; therefore, to assume that a particular panel will work is pure speculation. In particular, he states that the assumption of the Examiner is erroneous, and that one skilled in the art would not utilize a panel, such as the one in Sobolev, that showed "slight cracking". See Supplemental Declaration, paragraphs 21 – 24.

The Supplemental Declaration also shows that one skilled in the art would not combine Fitzgerald et al. and Sobolev because Fitzgerald et al. does not disclose a concrete formwork panel but a mold. To one skilled in the art, a concrete formwork panel is a panel that can be connected to other panels to make a formwork and then disassembled and used again. It points out that Fitzgerald et al. internally supports this

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position at column 1, line 7, where it states that the molds are only used for forming test specimens. He concludes that one skilled in the art of concrete formwork panels would not read Fitzgerald et al. and Sobolev and come to the conclusion that high-density polyethylene could be laminated with steel to make a concrete formwork panel because: a) the combination does not teach that high-density polyethylene can be laminated with steel; and b) that such a lamination would not stand up to abuse. Since his experience with plastic laminates is that they generally do not work, such a conclusion based on Sobolev and Fitzgerald et al. is pure speculation. See Supplemental Declaration, paragraphs 17 – 21. Thus, to one skilled in the art, the combination of Sobolev and Fitzgerald et al. does not even establish a prima facie case of obviousness, because there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine teachings to make such a laminate, and because there is not a reasonable expectation of success. MPEP 4142 and MPEP 2143 – 2143.03.

For the above reasons, claim 1 is patentable. Claims 2 – 12, 14 – 17, 22, and 25 – 28 all depend on claim 1, and include all of the limitations of claim 1, and are therefore patentable at least for that reason. *In re Fine*, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988) at headnote 4 and MPEP 2143.03. In addition, none of the limitations in the dependent claims are shown in the art for panels made of steel facing with a high-density polyethylene core. Certain of the claims, such as the foam density limitations of claims 11 and 12, include limitations nowhere disclosed in any of the references for *any* panel. If a claim includes just one limitation that is not disclosed in the prior art, the claim is patentable. See MPEP 2143.03; *In re Glass*, 176 USPQ 489, 491 (CCPA 1973); *In re Saether*, 181 USPQ 36, 39 (CCPA 1974) at headnote 1; *Ex parte Petersen*, 228 USPQ 217, 218 (PO Bd Pat App & Inter 1985) at headnote 1; and *In re Fine*, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988) at headnote 3. The Examiner says that one could get these by experiment and cites *In re Boesch*. The *Boesch* facts were quite different than those at present. In *Boesch*, the claimed optimized values were all within ranges disclosed in the prior art, and the prior art suggested changing the values in the direction covered by the claims. Here, the values

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claimed are outside the ranges in the prior art. Likewise, all other allegations of the Examiner that specific limitations are obvious without showing a reference that suggests it, such as the limitations of claims 6 – 8, 14 – 17, and 22, are challenged on the basis that the Examiner's opinion is not a suitable replacement for a reference. *Ex Parte Nouel*, 158 USPQ 237, 239 (POBA 1967) at headnote 2.

With respect to claims 39 – 42, these claims do not appear to be addressed by the Office Action except in paragraph 21; therefore, we shall address them below.

Claim 18 was rejected under 35 U.S.C. 103(a) as being unpatentable over Sobolev in view of Fitzgerald et al. and further in view of Toedter (US 3,654,053). This rejection is respectfully traversed. This claim depends on claim 1, which is patentable, and therefore is also patentable. *In re Fine*, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988) at headnote 4 and MPEP 2143.03. In addition, Toedter shows how to bend a decorative panel in two to make a panel that is twice as thick as the panel not bended. No suggestion that this can make a flange, much less a stronger flange, is included. The Examiner is using hindsight in making this combination.

Claims 19 and 20 were rejected under 35 USC 103(a) as being unpatentable over Sobolev in view of Fitzgerald et al. and further in view of Lee (US 6,295,786). This rejection is respectfully traversed. These claims depend on claim 1, which is patentable, and therefore are also patentable. *In re Fine*, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988) at headnote 4 and MPEP 2143.03. In addition, Lee has nothing to do with concrete and the idea of even making a columnar panel is merely added as an afterthought. The Examiner is using the hindsight of the invention itself to find this combination.

Claim 23 was rejected under 35 USC 103(a) as being unpatentable over Sobolev in view of Fitzgerald et al. and further in view of Yoshida et al. (US 6,117,521). This rejection is respectfully traversed. This claim depends on claim 1, which is patentable, and therefore is also patentable. *In re Fine*, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988) at headnote 4 and MPEP 2143.03. In addition, none of the references discloses a rib attached to a metal backing layer.

Claims 23 and 24 were rejected under 35 USC 103(a) as being unpatentable over

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Sobolev in view of Fitzgerald et al. and further in view of Gallis et al. (US 4,473,209). This rejection is respectfully traversed. These claims depend on claim 1, which is patentable for the reasons given above, and therefore they also are patentable. *In re Fine*, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988) at headnote 4 and MPEP 2143.03.

Independent Claim 39 And The Claims Dependent On Claim 39

Claims 39 – 41 were rejected under 35 USC 103(a) as being unpatentable over Sobolev. This rejection is respectfully traversed. With respect to claim 39, the limitation of a foam plastic with 32% or more gas by volume is not shown or suggested in the art. The Examiner states that Sobolev does not give a range, but only shows that variation of volume of gas per unit volume of foam core layer is possible. That is not true. The exact statement of Sobolev is that "In a number of cases, core density reductions of 30% were readily achieved without loss of important laminate properties." The phrase "In a number of cases" indicates that, in the majority of cases, important laminate properties were lost. The fact that no cases of core density reductions of more than 30% were given does create a range. The statement implies that, in the range above the core reductions of 30%, important laminate properties were lost in all cases. The Supplemental Declaration is a declaration by one skilled in the art and supports this position. See Supplemental Declaration, paragraphs 25 –27.

Mr. Rahe's Supplemental Declaration also states that delamination is very serious in concrete formwork panels. Further, the Supplemental Declaration states that, because lamination is such a serious problem, based on Sobolev, at best it would take years of experimentation to do what the Examiner suggests to determine an optimum value of gas by volume. More likely, however, says Mr. Rahe, one skilled in the art of concrete formwork panels would not even bother to make such tests, since Sobolev suggests such panels would delaminate. Thus, a prima facie case of obviousness is not made out for claim 31 because a key limitation of the claim, a foam plastic of 32% or more gas by volume, is not disclosed in the prior art. MPEP 2143.03. "It is error to ignore specific limitations distinguishing over the references." *In re Glass*, 176 USPQ 489, 491 (CCPA 1973). See also *In re Saether*, 181 USPQ 36, 39 (CCPA 1974) at headnote 1; *Ex parte*

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Petersen, 228 USPQ 217, 218 (PO Bd Pat App & Inter 1985) at headnote 1; and *In re Fine*, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988) at headnote 3. Further, if a prima facie case of obviousness is made out, the unexpected superiority of the concrete formwork panel according to the invention overcomes it. See MPEP 716.02 – 716.02(g) and 2144.09 and the cases cited therein. Therefore, claim 39 is patentable.

Claims 40 – 41 depend on claim 39, which is patentable, and therefore are also patentable. *In re Fine*, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988) at headnote 4 and MPEP 2143.03. In addition, they recite ranges of gas by volume that are far above any disclosure of Sobolev, and are patentable for that reason also.

Claim 42 was rejected under 35 U.S.C. 103(a) as being unpatentable over Sobolev in view of Fitzgerald et al. This rejection is respectfully traversed for the same reasons as given above in the discussions of claim 1. Further, this claim depends on claim 39, which is patentable, and therefore is also patentable. *In re Fine*, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988) at headnote 4 and MPEP 2143.03.

Claim 21 is indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 21 has not been rewritten because it depends on claims 19 and 1, which are patentable. *In re Fine*, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988) at headnote 4 and MPEP 2143.03.

In view of the foregoing, claims 1 – 12, 14 – 28, and 39 – 42 are patentable, and their reconsideration and allowance are respectfully requested. No additional fee is seen to be due. However, if any other fee is required, please charge it to Deposit Account No. 50-1848.

Respectfully submitted,
PATTON BOGGS LLP

By: 

Carl A. Forest, Reg. No. 28,494

Telephone: (303) 894-6114

Facsimile: (303) 894-9239

Customer No.: 24283

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